

Amendment to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1-23. (Cancelled)

24. (Currently Amended) An isolated polynucleotide selected from:

- a. a first polynucleotide comprising at least 20 contiguous nucleotides capable of binding to a SNP position associated with a trait on bovine genomic DNA, wherein the SNP position is located in a region ~~less than about 500,000 nucleotides from~~ selected from nucleic acid residue 300 of SEQ ID NO:20614, SEQ ID NO:23124, SEQ ID NO:47083, SEQ ID NO:47087, SEQ ID NO:47089, SEQ ID NO:47091, SEQ ID NO:47093, SEQ ID NO:47096, SEQ ID NO:47098, SEQ ID NO:47102 and SEQ ID NO:47105, wherein the trait is tenderness; and
- b. an extension primer which is capable of binding to a target sequence adjacent to a SNP position located in a region ~~less than about 500,000 nucleotides from~~ selected from nucleic acid residue 300 of SEQ ID NO:20614, SEQ ID NO:23124, SEQ ID NO:47083, SEQ ID NO:47087, SEQ ID NO:47089, SEQ ID NO:47091, SEQ ID NO:47093, SEQ ID NO:47096, SEQ ID NO:47098, SEQ ID NO:47102 and SEQ ID NO:47105, wherein the extension primer is a substrate for polynucleotide synthesis across the SNP position.

25. (Previously presented) The isolated polynucleotide of claim 24, wherein the isolated first polynucleotide is at least 25 nucleotides in length.

Claims 26-32 (Cancelled)

33. (Previously presented) The isolated polynucleotide of claim 24, wherein the target sequence is DNA or RNA.

34. (Previously presented) The isolated polynucleotide of claim 24, wherein a nucleotide occurrence for the SNP position is associated with a bovine subject having a value for

tenderness that is within at least a 50th percentile of the bovine population for tenderness.

35. (Currently Amended) The isolated polynucleotide of claim 34, wherein a nucleotide occurrence for the SNP position is associated with a bovine subject having a value for tenderness that is within at least a ~~99th~~ 90th percentile of the bovine population for tenderness.

36. -39 (Canceled)

40. (Previously presented) The isolated first polynucleotide of claim 24, in combination with at least a second polynucleotide and wherein at least one of the first polynucleotide and second polynucleotide comprises a non-target sequence.

41. (Previously presented) The isolated first polynucleotide of claim 24, in combination with at least a second polynucleotide and wherein at least one of the first polynucleotide and second polynucleotide is bound to a solid phase.

42. (Previously presented) The isolated first polynucleotide of claim 24, in combination with at least a second polynucleotide and wherein at least one of the first polynucleotide and second polynucleotide is detectably labeled.

43. (Currently Amended) The isolated combination of claim 42, wherein the detectable label is at a position corresponding to a position selected from position 300 of SEQ ID NO: 20614, SEQ ID NO:23124, SEQ ID NO:47083, SEQ ID NO:47087, SEQ ID NO:47089, SEQ ID NO:47091, SEQ ID NO:47093, SEQ ID NO:47096, SEQ ID NO:47098, SEQ ID NO:47102 and SEQ ID NO:47105.

44. (Previously presented) The isolated combination of claim 40, wherein at least one of the first and second polynucleotides comprises a target sequence for a separate third primer.

45. (Currently Amended) The isolated polynucleotide of claim 24, wherein the polynucleotide is an extension primer comprising at least 20 contiguous nucleotides, and wherein the extension primer comprises a 3'-terminal residue which is at least one nucleotide position upstream from a position selected from position 300 of sequence SEQ ID NO: 20614, SEQ ID NO:23124, SEQ ID NO:47083, SEQ ID NO:47087, SEQ ID NO:47089, SEQ ID NO:47091, SEQ ID NO:47093, SEQ ID NO:47096, SEQ ID NO:47098, SEQ ID NO:47102 and SEQ ID NO:47105.

46. (Previously presented) The isolated polynucleotide of claim 45, wherein the extension primer binds to a same strand as a first primer.
47. (Previously presented) The isolated polynucleotide of claim 24, wherein the extension primer binds to a different strand from a first primer.
48. (Previously presented) The isolated polynucleotide of claim 24, wherein the extension primer is detectably labeled.
49. (Previously presented) The isolated polynucleotide of claim 24, wherein the extension primer comprises non-target sequences.
50. (Previously presented) The isolated polynucleotide of claim 49, wherein the extension primer comprises a target sequence for a separate third primer.
51. (Previously presented) The isolated polynucleotide of claim 24, wherein the first polynucleotide comprises a 3'-terminal nucleotide residue which is complementary to a specific nucleotide in the SNP position.
52. (New) The isolated polynucleotide of claim 24 wherein the first polynucleotide comprises at least 20 contiguous nucleotides capable of binding to a SNP at nucleic acid residue 300 of SEQ ID NO:20614.
53. (New) The isolated polynucleotide of claim 24 wherein the extension primer is capable of binding to a SNP position at nucleic acid residue 300 of SEQ ID NO:20614.